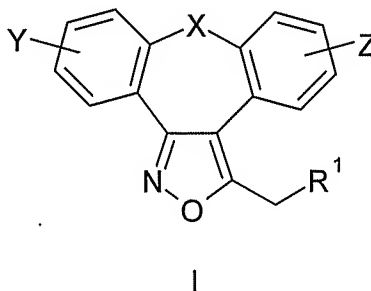


Claims:

Please amend the claims as follows:

1. (Currently Amended) A compound of formula I:



wherein

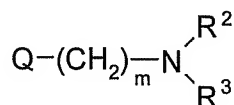
X is selected from the group consisting of CH_2 , O, S, $\text{S}(=\text{O})$, $\text{S}(=\text{O})_2$ and NR^a , wherein R^a is selected from the group consisting of hydrogen, C_1 - C_3 -alkyl, C_1 - C_3 -alkanoyl, C_1 - C_7 -alkoxycarbonyl, C_7 - C_{10} -arylmethoxycarbonyl, C_7 - C_{10} -aroyle, C_7 - C_{10} -arylalkyl, C_3 - C_7 -alkylsilyl and C_5 - C_{10} -alkylsilylalkoxyalkyl;

Y and Z are each independently selected from the group consisting of hydrogen, halogen, C_1 - C_4 -alkyl, C_2 - C_4 -alkenyl, C_2 - C_4 -alkynyl, halo- C_1 - C_4 -alkyl, hydroxy, C_1 - C_4 -alkoxy, trifluoromethoxy, C_1 - C_4 -alkanoyl, amino, amino- C_1 - C_4 -alkyl, C_1 - C_4 -alkylamino, *N*-(C_1 - C_4 -alkyl)amino, *N,N*-di(C_1 - C_4 -alkyl)amino, thiol, C_1 - C_4 -alkylthio, sulfonyl, C_1 - C_4 -alkylsulfonyl, sulfinyl, C_1 - C_4 -alkylsulfinyl, carboxy, C_1 - C_4 -alkoxycarbonyl, cyano and nitro;

R^1 is selected from the group consisting of hydrogen, halogen, C_1 - C_7 -alkyl optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, *N*-(C_1 - C_4) alkylamino, *N,N*-di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl and C_1 - C_4 alkylsulfinyl; C_2 - C_7 -alkenyl optionally substituted with one or more halogen atoms; C_2 - C_7 -alkynyl; hydroxy; hydroxy- C_2 - C_7 -alkenyl; hydroxy- C_2 - C_7 -alkynyl; C_1 - C_7 -alkoxy; thiol; thio- C_2 - C_7 -alkenyl; thio- C_2 - C_7 -alkynyl; C_1 - C_7 -alkylthio; amino; *N*-(C_1 - C_7 -alkyl)amino; *N,N*-di(C_1 - C_7 -alkyl)amino; C_1 - C_7 -alkylamino; amino- C_2 - C_7 -alkenyl; amino- C_2 - C_7 -alkynyl;

amino-C₁-C₇-alkoxy; C₁-C₇-alkanoyl; C₇-C₁₀-aroyl; oxo-C₁-C₇-alkyl; C₁-C₇-alkanoyloxy; carboxy; ~~an optionally substituted~~ C₁-C₇-alkyloxycarbonyl optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, N,N-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; ~~an optionally substituted~~ C₇-C₁₀-aryloxycarbonyl optionally substituted with one or two substituents selected from the group consisting of fluoro, chloro, C₁-C₄ alkyl, cyano, nitro, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, N,N-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; carbamoyl; N-(C₁-C₇-alkyl)carbamoyl; N,N-di(C₁-C₇-alkyl)carbamoyl; cyano; cyano-C₁-C₇-alkyl; sulfonyl; C₁-C₇-alkylsulfonyl; sulfinyl; C₁-C₇-alkylsulfinyl; nitro;

a substituent of the formula II:



II

wherein

R² and R³ are each independently hydrogen, C₁-C₄-alkyl or aryl [[as]] as defined above or,

R² and R³ taken together with the nitrogen atom to which they are attached form an optionally substituted five or six member heterocycle containing at least one heteroatom selected from the group consisting of O,S, and N or ~~heteroaryl~~ which can be optionally substituted with one or two substituents selected from halogen, C₁-C₄ alkyl, cyano, nitro, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, N,N-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl, and C₁-C₄ alkylsulfinyl; or

a monocyclic or bicyclic aryl group; a monocyclic or bicyclic heteroaryl group; and a heterocycle, wherein the monocyclic or

bicyclic aryl group, the monocyclic or bicyclic heteroaryl group and the heterocycle are linked to the thiophene ring via a direct bond or a C1-C4 alkylene group, and are each optionally substituted with one or more substituents selected from the group consisting of fluoro, chloro, C1-C4 alkyl, cyano, nitro, hydroxy, C1-C4 alkoxy, thiol, C1-C4 alkylthio, amino, N-(C1-C4) alkylamino, N,N-di(C1-C4-alkyl)-amino, sulfonyl, C1-C4 alkylsulfonyl, sulfinyl and C1-C4 alkylsulfinyl;

m is an integer from 1 to 3;

Q is oxygen, sulfur or nitrogen;

and pharmaceutically acceptable salts and solvates thereof.

2. (Previously Presented) A compound according to claim 1 wherein X is O or S.

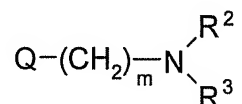
3. (Previously Presented) A compound according to claim 1 wherein Y and Z are each independently selected from the group consisting of hydrogen, fluorine, chlorine, bromine, C₁-C₄-alkyl, halo-C₁-C₄-alkyl, hydroxy, C₁-C₄-alkoxy, trifluoromethoxy, C₁-C₄-alkanoyl, amino, amino-C₁-C₄-alkyl, N-(C₁-C₄-alkyl)amino, N,N-di(C₁-C₄-alkyl)amino, thiol, C₁-C₄-alkylthio, cyano and nitro.

4. (Currently Amended) A compound according to claim 1 wherein:

R¹ hydrogen, halogen, C₁-C₇-alkyl optionally substituted with one or more substituents selected from the group consisting of halogen atom, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino and N,N-di(C₁-C₄-alkyl)-amino; hydroxy; C₁-C₇-alkoxy; thiol; C₁-C₇-alkylthio; amino; N-(C₁-C₇-alkyl)amino; N,N-di(C₁-C₇-alkyl)amino; amino-C₁-C₇-alkoxy; C₁-C₇-alkanoyl; C₇-C₁₀-aroyl; C₁-C₇-alkanoyloxy; an optionally substituted C₁-C₇-alkyloxycarbonyl optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, N,N-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; an optionally

substituted C₇-C₁₀-aryloxycarbonyl optionally substituted with one or two substituents selected from the group consisting of fluoro, chloro, C₁-C₄ alkyl, cyano, nitro, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, N,N-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; carbamoyl; N-(C₁-C₇-alkyl)carbamoyl; N,N-di(C₁-C₇-alkyl)carbamoyl; cyano; cyano-C₁-C₇-alkyl; nitro;

a substituent of the formula II:



II

wherein

R² and R³ are each independently hydrogen, C₁-C₄-alkyl, aryl as described above; or

R² and R³ taken together with the nitrogen atom to which they are attached form a heterocycle or heteroaryl selected from the group consisting of morpholine-4-yl, piperidine-1-yl, pyrrolidine-1-yl, imidazole-1-yl and piperazine-1-yl; or

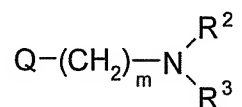
monocyclic or bicyclic aryl group; monocyclic or bicyclic heteroaryl group; and a heterocycle, wherein the monocyclic or bicyclic aryl group, the monocyclic or bicyclic heteroaryl group and the heterocycle are linked to the thiophene ring via a direct bond or a C₁-C₄ alkylene group, and are each optionally substituted with one or more substituents selected from the group consisting of fluoro, chloro, C₁-C₄ alkyl, cyano, nitro, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, N-(C₁-C₄) alkylamino, and N,N-di(C₁-C₄-alkyl)-amino; and

m has the meaning of an integer from 1 to 3;

Q is oxygen.

5. (Previously Presented) A compound according to claim 1 wherein Y is hydrogen or chlorine and Z represents hydrogen.

6. (Currently Amended) A compound according to claim 1 wherein R^1 is CH_3 , CH_2Br , CH_2OH or a substituent of formula II:



II

wherein R^2 , R^3 , Q and m have the above defined meaning

R^2 and R^3 are each independently hydrogen, C_1 - C_4 -alkyl or aryl as defined above or,

R^2 and R^3 taken together with the nitrogen atom to which they are attached form an five or six member heterocycle containing at least one heteroatom selected from the group consisting of O, S, and N which can be optionally substituted with one or two substituents selected from halogen, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, *N*-(C_1 - C_4) alkylamino, *N,N*-di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl, and C_1 - C_4 alkylsulfinyl; or

a monocyclic or bicyclic aryl group; a monocyclic or bicyclic heteroaryl group; and a heterocycle, wherein the monocyclic or bicyclic aryl group, the monocyclic or bicyclic heteroaryl group and the heterocycle are linked to the thiophene ring via a direct bond or a C_1 - C_4 alkylene group, and are each optionally substituted with one or more substituents selected from the group consisting of fluoro, chloro, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, *N*-(C_1 - C_4) alkylamino, *N,N*-di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl and C_1 - C_4 alkylsulfinyl;

m is an integer from 1 to 3;

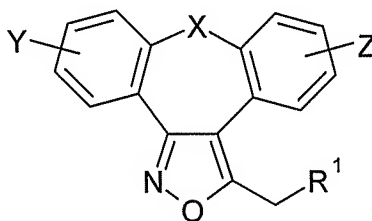
Q is oxygen, sulfur or nitrogen.

7. (Previously Presented) A compound according to claim 6 wherein m is 2 or 3.

8. (Currently Amended) A compound according to claim 1 selected from the group consisting of:

3-methyl-2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulene;
11-chloro-3-methyl-2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulene;
3-methyl-2,8-dioxa-1-aza-dibenzo[*e,h*]azulene;
3-bromomethyl-2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulene;
3-bromomethyl-11-chloro-2-oxa-8-thia-1-aza-
dibenzo[*e,h*]azulene;
3-bromomethyl-2,8-dioxa-1-aza-dibenzo[*e,h*]azulene;
dimethyl-[2-(2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulen-3-
ylmethoxy)-ethyl]-amine;
dimethyl-[3-(2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulen-3-
ylmethoxy)-propyl]-amine;
dimethyl-[2-(11-chloro-2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulen-3-
ylmethoxy)-ethyl]-amine;
dimethyl-[3-(11-chloro-2-oxa-8-thia-1-aza-dibenzo[*e,h*]azulen-3-
ylmethoxy)-propyl]-amine;
dimethyl-[2-(2,8-dioxa-1-aza-dibenzo[*e,h*]azulen-3-ylmethoxy)-
ethyl]-amine; and
dimethyl-[3-(2,8-dioxa-1-aza-dibenzo[*e,h*]azulen-3-ylmethoxy)-
propyl]-amine,
and or a pharmaceutacaly acceptable salt or solvate thereof.

9. (Currently Amended) Process for the preparation of the
compound of the formula I:



I

wherein

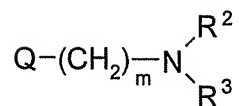
X is selected from the group consisting of CH₂, O, S, S(=O),
S(=O)₂ and NR^a, wherein R^a is selected from the group consisting of

hydrogen, C₁-C₃-alkyl, C₁-C₃-alkanoyl, C₁-C₇-alkoxycarbonyl, C₇-C₁₀-arylmethoxycarbonyl, C₇-C₁₀-aroyl, C₇-C₁₀-arylalkyl, C₃-C₇-alkylsilyl and C₅-C₁₀-alkylsilylalkoxyalkyl;

Y and Z are each independently selected from the group consisting of hydrogen, halogen, C₁-C₄-alkyl, C₂-C₄-alkenyl, C₂-C₄-alkynyl, halo-C₁-C₄-alkyl, hydroxy, C₁-C₄-alkoxy, trifluoromethoxy, C₁-C₄-alkanoyl, amino, amino-C₁-C₄-alkyl, C₁-C₄-alkylamino, *N*-(C₁-C₄-alkyl)amino, *N,N*-di(C₁-C₄-alkyl)amino, thiol, C₁-C₄-alkylthio, sulfonyl, C₁-C₄-alkylsulfonyl, sulfinyl, C₁-C₄-alkylsulfinyl, carboxy, C₁-C₄-alkoxycarbonyl, cyano and nitro;

R¹ is selected from the group consisting of hydrogen, halogen, C₁-C₇-alkyl optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, *N*-(C₁-C₄) alkylamino, *N,N*-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; C₂-C₇-alkenyl optionally substituted with one or more halogen atoms; C₂-C₇-alkynyl; hydroxy; hydroxy-C₂-C₇-alkenyl; hydroxy-C₂-C₇-alkynyl; C₁-C₇-alkoxy; thiol; thio-C₂-C₇-alkenyl; thio-C₂-C₇-alkynyl; C₁-C₇-alkylthio; amino; *N*-(C₁-C₇-alkyl)amino; *N,N*-di(C₁-C₇-alkyl)amino; C₁-C₇-alkylamino; amino-C₂-C₇-alkenyl; amino-C₂-C₇-alkynyl; amino-C₁-C₇-alkoxy; C₁-C₇-alkanoyl; C₇-C₁₀-aroyl; oxo-C₁-C₇-alkyl; C₁-C₇-alkanoyloxy; carboxy; an optionally substituted C₁-C₇-alkyloxycarbonyl optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, *N*-(C₁-C₄) alkylamino, *N,N*-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; an optionally substituted C₇-C₁₀-aryloxycarbonyl optionally substituted with one or two substituents selected from the group consisting of fluoro, chloro, C₁-C₄ alkyl, cyano, nitro, hydroxy, C₁-C₄ alkoxy, thiol, C₁-C₄ alkylthio, amino, *N*-(C₁-C₄) alkylamino, *N,N*-di(C₁-C₄-alkyl)-amino, sulfonyl, C₁-C₄ alkylsulfonyl, sulfinyl and C₁-C₄ alkylsulfinyl; carbamoyl; *N*-(C₁-C₇-alkyl)carbamoyl; *N,N*-di(C₁-C₇-alkyl)carbamoyl; cyano; cyano-C₁-C₇-alkyl; sulfonyl; C₁-C₇-alkylsulfonyl; sulfinyl; C₁-C₇-alkylsulfinyl; nitro;

a substituent of the formula II:



II

wherein

R^2 and R^3 are each independently hydrogen, C_1 - C_4 -alkyl or aryl ~~[[as]]~~ as defined above or,

R^2 and R^3 taken together with the nitrogen atom to which they are attached form an ~~optionally-substituted~~ five or six member heterocycle containing at least one heteroatom selected from the group consisting of O, S, and N ~~or heteroaryl~~ which can be optionally substituted with one or two substituents selected from halogen, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, N -(C_1 - C_4) alkylamino, N,N -di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl, and C_1 - C_4 alkylsulfinyl; or

a monocyclic or bicyclic aryl group; a monocyclic or bicyclic heteroaryl group; and a heterocycle, wherein the monocyclic or bicyclic aryl group, the monocyclic or bicyclic heteroaryl group and the heterocycle are linked to the thiophene ring via a direct bond or a C_1 - C_4 alkylene group, and are each optionally substituted with one or more substituents selected from the group consisting of fluoro, chloro, C_1 - C_4 alkyl, cyano, nitro, hydroxy, C_1 - C_4 alkoxy, thiol, C_1 - C_4 alkylthio, amino, N -(C_1 - C_4) alkylamino, N,N -di(C_1 - C_4 -alkyl)-amino, sulfonyl, C_1 - C_4 alkylsulfonyl, sulfinyl and C_1 - C_4 alkylsulfinyl;

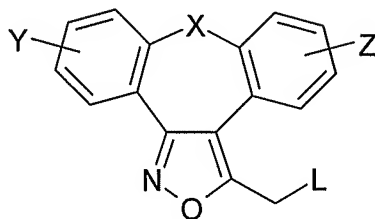
m is an integer from 1 to 3;

Q is oxygen, sulfur or nitrogen;

and its pharmacologically acceptable salts and solvates,

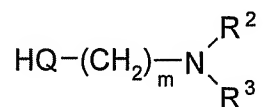
which comprises:

a) condensing a compound **la**:



la

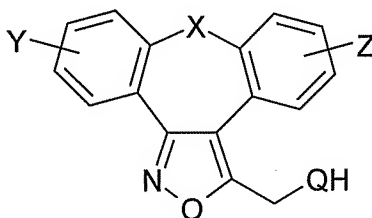
wherein X, Y and Z are as defined above, L is a leaving group, with an optionally selected alcohol, thioalcohol or amine or with a compound of the formula **IIa**:



IIa

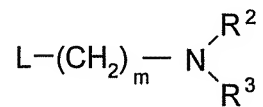
wherein all radicals and symbols have earlier stated meanings;

b) condensing a compound of the formula **lb**:



lb

wherein all symbols have the earlier stated meanings, with a compound of the formula **IIb**:



IIb

wherein the radicals R^2 and R^3 and the symbol m have the earlier stated meanings and symbol L is a suitable leaving group.

10. (Previously Presented) A pharmaceutical composition comprising at least one compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof and a pharmaceutically acceptable excipient diluent and/or carrier.

11. (Currently Amended) A method of treating ~~or preventing neurodegenerative disease in a human in need thereof a disease, damage, or disorder of the central nervous system associated with a disorder of neurochemical equilibrium of biogenic amines or other neurotransmitters~~ comprising administering the dibenzoazulene of claim 1.

12. - 21. (Canceled).

22. (Currently Amended) The method of claim 11, wherein the dibenzoazulene is selected from the group consisting of:

- 3-methyl-2-oxa-8-thia-1-aza-dibenzo[e,h]azulene;
- 11-chloro-3-methyl-2-oxa-8-thia-1-aza-dibenzo[e,h]azulene;
- 3-methyl-2,8-dioxa-1-aza-dibenzo[e,h]azulene;
- 3-bromomethyl-2-oxa-8-thia-1-aza-dibenzo[e,h]azulene;
- 3-bromomethyl-11-chloro-2-oxa-8-thia-1-aza-dibenzo[e,h]azulene;
- 3-bromomethyl-2,8-dioxa-1-aza-dibenzo[e,h]azulene;
- dimethyl-[2-(2-oxa-8-thia-1-aza-dibenzo[e,h]azulen-3-ylmethoxy)-ethyl]-amine;
- dimethyl-[3-(2-oxa-8-thia-1-aza-dibenzo[e,h]azulen-3-ylmethoxy)-propyl]-amine;
- dimethyl-[2-(11-chloro-2-oxa-8-thia-1-aza-dibenzo[e,h]azulen-3-ylmethoxy)-ethyl]-amine;
- dimethyl-[3-(11-chloro-2-oxa-8-thia-1-aza-dibenzo[e,h]azulen-3-ylmethoxy)-propyl]-amine;

dimethyl-[2-(2,8-dioxa-1-aza-dibenzo[*e,h*]azulen-3-ylmethoxy)-ethyl]-amine; and

dimethyl-[3-(2,8-dioxa-1-aza-dibenzo[*e,h*]azulen-3-ylmethoxy)-propyl]-amine; and or

pharmaceutically acceptable salts and solvates thereof.